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Claims 1-11 are pending in the application. By this amendment claims 1, 6, 7, 10 and 11 are amended and claims 12-16 are added.

**Formalities**

The specification has been amended to correct a typographical error. On page 9, line 22 "tuck lap" has been changed to "tuck loop".

**Claim Rejections under 35 USC §102**

Claims 1 and 3-11 are rejected under 35 USC §102(b) as being anticipated by Donaghy, et al. The rejection is respectfully traversed.

**(1) Tuck Loops of Tuck Warp Engaged with Loops of a Ground Fabric Structure**

Donaghy does not disclose a stretch fabric material comprising a knitted structure in which tuck loops of tuck warp are engaged with loops of a ground fabric structure.

The invention as claimed in amended claim 1 clearly defines a stretch fabric material composed of a Raschel warp knit fabric formed solely of a hard fiber yarn. The present stretch fabric material, although being formed solely of nonelastomeric fiber yarn, is exceedingly stretchable and has both stretchability and stiffness suitable especially for covering or bandaging a curved or irregularly-shaped body object or portion or human body. Accordingly, the present stretchable material exhibits gentle tightening force when being wound on an affected portion as a covering or a bandage.

The present stretch fabric material is unique for the reason as explained-above because the elongation of the fabric as high as 20% or greater is imparted by the presence of tucked loops of tuck warp yarns each engaging with the needle loops forming the ground knit structure.

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The tuck loops are formed of warp yarn separate from that forming the loops of the ground fabric structure, and the tuck warp is additionally transferred to the back side of the needle stitches so as to be additionally engaged with the back side of the needle loops of the ground fabric structure so that the tuck loops do not cause any substantial restraining on the loops of the ground fabric structure (see the descriptions on lines 24 to 37 on page 4 of the specification). As a result, each tuck loop wraps with sinker loops in the adjacent knit loops (= loops of the present and previous courses) forming the ground fabric structure, thereby the tuck loops keeping the ground fabric structure in a loosened or slackened state.

Fig. 5 illustrates examples of tuck loops 3a, 3b, 3c and 3d engaging chain stitch loops (2) forming a ground fabric structure (see the description on page 4, line 37 to page 5, line 14

Fig. 2 shows a three dimensional view of a fabric obtained according to present Example 4, in which the respective tuck warps (1) forming tuck loops (3) engages with the respective sinker loops of the needle loops of the ground fabric structure of the chain stitch (2) so that each tuck loop wraps loosely or in a slackened manner, each sinker loop (loops connecting two adjacent needle loops of the loop forming the ground fabric structure. In Example 4, tuck loops are formed by means of fall-plate in a lapping movement of the dembigh connecting ground fabric structure of chain stitch (See the description in line 31 on page 15 to line 17 on page 16).

Since the tuck warp is knit into an easily movable structure in which the tuck warp loosely wraps an engaging portion of a sinker loop of a knitted loop forming of the ground fabric structure, a chain stitch, the knit fabric exhibits the elastic recovery of elongation when the stretched tuck loop shrinks to the original tuck loop.

(1) As the tuck loops are additionally attached to the ground knit structure they do not tightly enwrap the sinker loops of the knitted loop forming the ground fabric structure, but a

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sinker loop of the loops forming the ground fabric structure appears on the back side in a floating manner and is engaged with the loops of the ground fabric structure solely at a position transferring to the needle by the overlap at right and left ends, thereby a Raschel knit fabric exhibiting elastic properties is formed. According to the present invention, when the fabric is stretched by the deformation of the tuck loop of the tuck warp in the knit structure forming the fabric, a stretch back property is easily exhibited (See the description line 3 on page 10 through line 10 on page 11).

Donaghy et al. (hereinafter referred to as Donaghy) describes a three-bar Raschel warp knitted fabric which can be molded by heat setting, so as to be suitable for use in making breast cups for women's brassieres.

The Raschel warp knitted fabric has a three-bar Raschel construction including a set of elastic yarns inlaid with satin-effect yarns and a specifically selected ground yarns, and basically comprises a first set of yarns warp knitted in course wise extending underlaps at the technical back of the fabric to provide a satin-like effect, interknitted with a set of ground yarns warp knitted in a stitch pattern forming a stabilized fabric ground structure (See the descriptions in lines 10 to 12 at column 2; and lines 59 to 64 at column 1).

According to the descriptions of Donaghy referring to Fig. 2, the warp knitted fabric is embodied by a knitted construction in which the first set of yarns (=satin effect yarns 24 threaded on the top guide bar in a repeating 4-6, 2-0 stitch pattern, III) are interknitted with a set of ground yarns (ground yarns 22, the middle guide bar in a repeating 2-0, 2-4 stitch pattern, II) with each satin-effect yarn 24 being formed in needle loops 24n alternating every course C between wales W spaced apart by one intervening wale W, satin needle loops 24n

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being interknitted in plated relationship with the needle loops 22n of the ground yarns 22 in the respective wale W (see column 5, lines 28 to 23, and 50 to 61), thereby ground yarns 22 form an essentially stabilized base of ground structure and the satin effect yarns 24 outwardly of the ground yarns 22 at the technical back of the fabric to present a satin-like fabric surface (See the description in line 62 at column 5 through line 2 at column 6).

Based on the embodiment of Donaghy as referenced above, the first set of yarns (the satin effect yarns threaded in the top guide bar, III) are interknitted with a set of ground yarns (middle guide bar, II) so that the satin needle loops 24n of warp are interknitted in plated relationship (formed in the same needle stitch) with the needle loops 22n in the respective the satin-effect needle loops 24, thereby the satin needle loops 24 formed of the first set of yarn being engaged with the ground structure at the ground needle loops 22n knitted in the same needle stitch.

Because the satin needle loops 24 cannot be tuck loops, no engagement of tuck loop with the ground fabric structure is contained in the warp knitted fabric of Donaghy. Since the warp knitted fabric structure of Donaghy has a ground fabric structure stabilized by satin effect warp yarns engaged with needle loop, the front guide bar for knitting satin effect yarns cannot be equipped with means for forming tuck loop of the warp yarn, for example, fall-plate. Accordingly, the satin effect yarns 24 cannot be tuck warps for forming tuck loop. For the reason set forth above, the warp yarns in the first guide bar cannot be tuck warp which is additionally transferred to the back side of the stitches to be engaged with the back side of the loops of the ground fabric structure. Accordingly, Donaghy does not disclose tuck warp loops

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engaged with ground fabric structure loops as is claimed by Applicant in claims 1, 6, 7, 10 and 11.

The moldable warp knitted fabric of Donaghy is an essentially stabilized base of ground structure with the technical back of the fabric to present a satin like fabric surface, settable into permanent shape conforming to a three dimensional mold as breast cup mold without distension of the knit structure. Accordingly, the Raschel warp fabric intended in Donaghy cannot have any structure capable of elongate as great as 20% in the warp direction as is claimed by Applicants in claims 1, 6, 7, 10 and 11. Additionally, rejected claims 3-5 and 8 and 9 depend on the aforementioned independent claims, they too are not anticipated by Donaghy.

Therefore, Donaghy does not teach the presently claimed warp knitted fabric in which the loop of tuck warp yarn is additional transferred to the back side of the stitches to be additionally engaged with the back side or the loops of the ground fabric structure so that it does not cause restraint on the lap of the ground fabric. Withdrawal of the 35 USC §102(b) rejection is respectfully requested.

## **(2) Hard Fiber Yarn**

Dependent claims 1, 6, 7, 10 and 11 have been amended to include a "hard fiber yarn", support for which is found on page 6, line 37 through page 7, in line 7 of the specification. A hard fiber yarn is not disclosed by Donaghy. In fact, Donaghy teaches away from using a hard fiber yarn. Donaghy teaches use of elastic yarns (reference numeral 20, see col. 4, line 5) "that predominantly serve the function of contracting the knitted structure of the fabric (col. 4, lines

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35-37). As Donaghy teaches away from the hard fibers claimed by Applicants, it cannot be considered to anticipate Applicants' claimed invention.

**(3) Load of 300g/10 cm**

Claims 1, 13-16 have been added, which include the 20% elongation to be "**under a load of 300g/10 cm.**" Support for these claims can be found in the description on page 5, line 31 through page 6, line 8. Donaghy does not disclose such a load, and therefore, Applicants' claimed invention is further differentiated from Donaghy, and not anticipated by the reference

**Rejection under §35 USC 103**

Claim 2 is rejected under §35 USC 103(a) as being unpatentable over Donaghy, *et al.*  
This rejection is respectfully traversed.

The specific ground fabric stitches as recited in claim 2 are additional conditions, but not essential condition for attaining the present stretchable fabric. Any kind of ground fabric structures may be used for the purpose of optimization of secondary characteristics such as strength, softness, but these characteristics are additional ones.

The present stretchable fabric must have an elongation of at least 20% in the warp direction. The function of this high elongation is imparted by the presence of tuck loops of tuck warp yarn (warp yarns threaded in the front guide bar) in the fabric knit structure. It is, therefore, crucial that the present stretchable fabric contains tuck loops of tuck warps in fabric knit structure.

Since the tuck warp is knitted in a easily movable structure in which a tuck warp loosely wraps an engaging portion of the sinker loop with a needle loop so the ground fabric structure

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such as a chain stitch (plain stitch), a dembigh stitch or a queen's cord stitch, the knit fabric exhibits the elastic recovery of elongation when the stretched tuck warp shrinks to the original tuck loop (See the description in line 23 on page 10 through lines 2, on page 11).

As previously discussed, the three-bar warp knitted fabric of Donaghy has a knitted construction comprising the first set (threaded in the front guide bar) of warp yarns forming the satin needle loops 24 engaged with the ground structure at the ground needle loops 22n knitted in the same needle stitch so that the stitch construction of both the ground and satin-effect yarns 22 and 24 to compact their needle loops 22n, 24n to enhance the satin-like appearance of the yarns 24 at the technical back of the fabric. It is apparent that the warp fabric of Donaghy cannot contain any tuck loop of the satin effect warp yarns engaged with the ground fabric structure, and cannot produce highly elongatable fabric from non-elastic yarn.

Based on the foregoing discussion, the stretch fabric material composed of a Raschel warp knit fabric of present claim 2 would not have been obvious over the warp knit fabric of Donaghy because the stretchable warp knit fabric containing tuck loops of tuck warps engaged with the ground fabric structure is not suggested in Donaghy. The invention of present claim 2 would not be predicted from the specific stitch of ground fabric structure described in Donaghy because the presently claimed knit structure containing tucked loops of tuck warp yarns, each engaging with the needle loops forming the ground knit structure, could not be motivated by the knit construction of moldable warp knitted fabric described in Donaghy.

#### **New Claim 12**

As new claim 12 depends on claim 1 as amended, it too overcomes Donaghy, *et al.* The basis of new claim 12 is found in the description "The inorganic fiber used in the present invention typically includes glass fiber now on the market. ... The organic fiber used in the

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present invention typically includes natural fibers . . . ; . . . ; synthetic fibers such as polyamide fiber, polyester fiber . . . all of which are ordinary yarns (not being textured to have crimps or the like for the purpose of obtaining the stretchability)." in lines 7 to 19 on page 7 of the present specification.

For the aforementioned reasons it is respectfully requested that a notice of allowance be issued for claims 1-16.

Respectfully submitted,  
SCHNADER HARRISON SEGAL & LEWIS LLP

Dated: \_\_\_\_\_ By: \_\_\_\_\_

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